

## ABSTRACT OF THE INVENTION

The invention provides a chassis, a scalable router that includes a plurality of chassis and a method of upgrading a router. Each chassis includes a plurality of processing modules and a programmable interconnection module. Data connections are provided between each processing module on each chassis and the interconnection module on that chassis, and a data connection is provided between the interconnection module on each chassis and the interconnection module on at least one other chassis. In this way, the inter-chassis and intra-chassis connections pass through the programmable interconnection module, which may be used for concentrating the location of resources, such as opto-electronic and electro-optical converters, in a single card or unit. Moreover, the programmable nature of the switch fabric in each interconnection module is amenable to reconfiguration so as to support a change in that chassis' interconnection pattern that may be required for expanding the router's capacity.